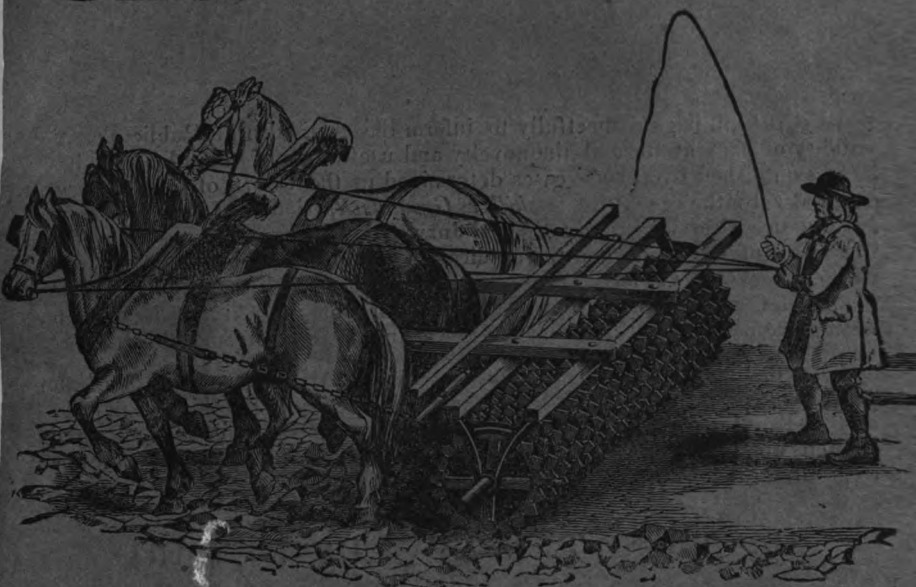


BEVERLEY IRON WORKS,

NEAR HULL, YORKSHIRE.

CROSSKILL'S PATENT ROLLER AND CLOD CRUSHER.



In London, August 5th, 1846, the Monthly Council Meeting of the Royal Agricultural Society of England, voted the Gold Medal to Mr. Crosskill, for his Patent Roller and Clod Crusher, on the recommendation of the Judges of Implements, at the Newcastle Royal Meeting. It was moved by Mr. Shelley, and seconded by Colonel Challoner—"That the Gold Medal of the Society be awarded to Mr. William Crosskill, of the Beverley Iron Works, for his Clod Crusher, WHICH SINCE THE FORMATION OF THE SOCIETY HAD BEEN CONSTANTLY EXHIBITED, CONTINUOUSLY IMPROVED, BUT NEVER SURPASSED, AND OF WHICH THE EXCELLENCE IS UNIVERSALLY ADMITTED," WAS UNANIMOUSLY ADOPTED AND CONFIRMED.

Awarded the Gold Medal, Thirty Sovereigns, and Silver Medal, by the Royal Society of England. Ten Sovereigns and Two Silver Medals, by the Royal Society of Ireland. Five Sovereigns by the Highland and Agricultural Society of Scotland. Ten Sovereigns by the North Lincolnshire Agricultural Society. Eight Sovereigns and Two Silver Medals by the Great Yorkshire Agricultural Society; and Prizes or Medals in the principal Provinces in England.

HULL: GODDARD AND LANCASTER.

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W. Crosskill begs respectfully to inform the Agricultural Public, that the validity of his Patent, and the novelty and usefulness of the Machine, have been established by several cases determined in the Court of Chancery, and especially by the case of *Crosskill v Groundsell*, tried at Liverpool, before Mr. Justice Cresswell, and a Special Jury, (where a new trial was refused by the Court of Exchequer, on the application of the Defendant.) And by the case of *Crosskill v Tuxford and others*, which occupied the attention of the Court of Common Pleas, and a Special Jury of the City of London, for nearly two days, (see "The Times" Newspaper for February 26th, 1846.)

An action has also been brought against Mr. Maltby, of Louth Park, for purchasing a pirated Clod Crusher, and £50 recovered of him for damages and costs. Various other parties have paid damages and costs, and signed written apologies, to avoid the unpleasantness and expense of a public exposure in the Court of Chancery.

CAUTION—TEN POUNDS REWARD

is offered to any person who shall give the Patentee such information as shall lead to the conviction of any person, making, selling, or using the Patent Clod Crusher, without licence from the Patentee.

**WILLIAM CROSSKILL,
BEVERLEY IRON WORKS,
NEAR HULL, YORKSHIRE;**

BEGS TO SUBMIT TO THE AGRICULTURAL PUBLIC THIS COPY
OF THE

PRACTICAL OPINIONS

ON THE EFFECT OF

CROSSKILL'S PATENT CLOD CRUSHER,

*From the Journal of the Royal Agricultural Society of England, for 1843,
vol. 4, part 2nd, pages 460 to 581.*

The original Letters, with a Model of the Roller, are deposited in the Museum of the Royal Agricultural Society, 12, Hanover Square, London.

A Model of the Roller is also exhibited at the Royal Polytechnic Institution, London.

The Clod Crusher Roller consists of 23 Roller-parts, with serrated and uneven surfaces, placed upon a round axle, 6 feet wide by $2\frac{1}{2}$ feet in diameter. The Roller-parts act independent of each other upon the Axle, thus producing a self-cleaning movement. Of course the Roller must only be used when the Land is so dry as not to stick. In fitting up the Patent Roller, care must be taken to place the large hole Roller-parts alternately with the smaller hole Roller-parts; and that each Roller-part be put on the Axle with the Arrow on its face pointing to the Horses.

When taken to the Field, a hole is dug under each travelling wheel, until the Roller-parts rest upon the ground, then take off the road wheels; use the same method to get them on when required.

Cash Price, with Travelling Wheels complete, delivered in Hull:

6 feet 6 inches.....£21. 6 feet.....£19 10s. 5 feet 6 inches.....£18.

CROSSKILL'S PATENT CLOD CRUSHER ROLLER.

The following Extract is from the Journal of the Royal Agricultural Society. Vol. v. page 372.

"CLOD CRUSHERS.—Several Clod Crushers, and Rollers, or implements to which that appellation was given by their makers, were put to work at Mr. Spooner's farm, on land well prepared for testing their respective properties and merits. The remarks made in the report of the Derby meeting relative to Mr. Crosskill's implement were fully borne out by the opinions of the judges who acted on this occasion, and who had the opportunity of giving these implements a quieter and more rigid trial. A premium of £20 was adjudged to Mr. Crosskill of Beverley, for his now almost universally known and approved Machine. The improvements made in the construction of this crusher have been successfully narrated and commended in previous reports; and testimonials to its useful effect in producing upon soils not cloddy a fine pulverulent surface, as well as its beneficial influence as a roller of young growing wheat, &c. &c., have been so recently collected and laid before the Society, (Journal, vol. iv. page 560) that it might be deemed unnecessary to add one word more on the subject. The judges, however, have particularly requested the writer to submit to the exhibitors the utter inutility of all attempts to compete successfully with Mr. Crosskill's implement, unless they can produce a machine which, like his, can be turned round about, when one of its extremities is fixed, without tearing up the soil and half burying itself in a hole formed whilst turning. It will assuredly be wiser to prove such properties at home than to bring to the Society's meetings, implements either purporting to be what they are not, or such as have already been eclipsed by more excellent inventions. The most complete implement is not perfect, and there is ever ample room and verge enough for attaining distinction either by the discovery of some better or cheaper principle of construction, or by increasing the utility of that which is acknowledged to be good. At the present time Mr. Crosskill's crusher and roller is unquestionably superior to any other brought to the notice of the Society; it happily combines a sufficiency of weight with bruising action, and simplicity with durability. The inventor makes them of different lengths, to suit the circumstances of purchasers, but the farmer will do wisely, when his means permit, to procure the longest size, as it is the heaviest and most effective."

Extract from the Report of the Royal Shrewsbury Meeting:

"CLOD CRUSHERS.—Mr. Crosskill's well-known Crusher and Roller again proved itself to be superior to all competitors, and received the Society's prize. It was tried against one produced by Mr. Garrett, and another by Mr. Cambridge. The Judges observed, that by reason of every rolling rim being separate, and all revolving on a round axle, Mr. Crosskill's implement possessed decided advantages over Mr. Garrett's; whilst Mr. Cambridge's might be considered as a fair roller, but was not entitled to bear the name of a Clod Crusher."

CROSSKILL'S PATENT ROLLER.

The following are the various uses to which this Implement is applied.

1. For Rolling Corn upon Light Lands, as soon as sown, and in the Spring, after frost, it is unequalled. It is found to answer much better than the tedious operation of the Pressers upon Light Soils, where it gives a suitable degree of firmness and tenacity, without leaving a smooth surface.
2. For Rolling Corn, &c. the Clod Roller has become invaluable upon Wheats soon as sown;—upon Strong Lands sown late in the year, which are cloddy in the Spring, and is then found equal to once hoeing.
3. For Rolling Corn three or four inches out of the ground, upon Land infested with the WIRE-WORM and GRUB, it is found a complete remedy, and has saved many crops from destruction.
4. For Rolling Strong Fallow Lands, and Crushing Clods, it is indispensable; it breaks up the hardest Clods, pulverizing them into a fine mould, when in many cases, from the nature of the Land and the dryness of the season, it would have been impossible to prepare the Land without. It has the great advantage of making sure of a sowing season in the driest weather. The Clod Crusher is worked by three horses, and has saved ONE-THIRD the horse power and labour of any other means. By once or twice rolling, it will pulverize the largest Clods, and give a fineness of surface far surpassing what is produced by the Spike Roller, or any other Implement; it is then equal to once harrowing,
5. For Rolling Barley, Oats, &c., when the plants are three inches out of ground, before sowing Clover, and other small seeds.
6. For Rolling Barley Stubbles, in Autumn, again in Winter, and once or twice in the Spring; when the Clover Plant has a tendency to throw out.
7. For Rolling Turnips in the rough leaf, before hoeing; when the plants are attacked by the Wireworm or Grub.
8. For Rolling Grass Lands, after compost; and Mossy Lands; a plain Roller is afterwards used; the improvement in the Grass is soon observed.
9. For Rolling between the Rows of Potatoes, &c. it is found to do what could not otherwise be equally effected in breaking, pressing, and leaving an uneven or harrowed-like surface upon the Land. It is worked between three or four Rows at once, by taking off the required number of Roller-parts, and placing Iron Bushes in the spaces required, so that the Roller-parts do not injure the plants.

PRACTICAL OPINIONS ON THE EFFECT OF CROSSKILL'S PATENT CLOD CRUSHER.

THINKING that it might be useful to obtain from those who had used Mr. Crosskill's clod-crusher an account of its action upon their respective farms, I requested him to make the enquiry of them; and the following Tables contain extracts from their answers, classed under five different heads.

PH. PUSEY.

Query 1.—How far valuable for crushing clods, and for breaking up the strongest fallows in the driest seasons?

YORKSHIRE

	Query 1—Crushing Clods.	Query 2—Strong Lands.
H. S. THOMPSON, Kirby Hall.	For breaking clods after turnips, eaten on the land late in the spring, and on land in course of preparation for fallow crop, it is very useful, in at once reducing clods, so hard that the harrows made little impression on them, I consider your patent clod crusher an exceedingly valuable implement.	
T. ALMACK, Bp. Burton, by Beverley.	Invaluable.	
THOMAS JACKSON. Routh, Beverley.	A most valuable implement. After breaking up my tenacious turnip land, I have had considerably finer and better crops than before.	Very satisfactory.
THOMAS DOWARSBY. Holmpton, Holderness.	I could not work my strong land to get it into a good state without your clod-crusher.	
T. WHEATLEY, Neswick, Driffield.	In the preparation of strong land, when particularly hard, your clod-crusher has completely pulverized it, when uses of all other implements have been vain.	It is never used to more advantage than upon wheat, rolled in the spring: only let it be dry enough for its use.
RT. HON. A. DUNCOMBE, Kilnwick Percy, by Pocklington.	Upon some of my land, in a rough and bad state, we could not do without your crusher.	
R. DENNISON, Kilnwick Percy, by Pocklington.	Nothing can excel it. I have two of your patent clod-crushers in constant use.	Very good.
H. P. CHOLMELEY, Brandsby, by York.	A most valuable implement for breaking up my fallow-land, we could get no turnips without the use of it.	It reduces all the large clods, and brings the land into a very good state.
Rev. S. CRYKE, Wiggenton Rectory, York.	I consider it of the greatest utility.	I have always rolled new-sown whenever the weather will advantage upon both soils.
W. C. HARLAND, (Agent Mr. FERNIE), Sutton Hall, by York.	A most useful implement; by far the best for this purpose, I have ever tried.	I consider it valuable for rolling land as soon as sown; provided it is dry.
Sir S. CROMPTON, Bart., (Agent, Mr. FAINT), Wood-End, by Thirsk.	It effectually breaks down large clods, and enables me to obtain turnips on land on which, without it, there would be no chance of growing them.	It answers well for rolling wheat after seeds; and also for rolling rough land before sowing barley, &c.
JOHN HUTTON, Sowber Hill, by North Allerton.	I find it most valuable for preparing strong land for turnips; and have no doubt I shall be able to do entirely without summer fallow on my strong lands.	I like it much for winter-sown wheat, rolling it in the spring; it makes an excellent seam for clover-seed, particularly on strong land.

Query 3.—How far valuable, upon light lands, for rolling corn as soon sown, and in the spring, after frost?

Query 5.—How far valuable upon grass-lands; upon mossy-lands, and worm in meadow-lands?

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Query 1—Crushing Clods.

Query 2—Strong Lands.

W. KESTON, Newby Walk, North Alderton.	Most valuable. For crushing clods of any size, three horses work readily and enable me to prepare land much sooner than by any other means.	
JOHN FOSTER, Newton, Bedale.	It is invaluable for pulverising the clods, letting out the seeds and weeds, when no other roller could be able to perform it in a dry season.	It is invaluable for consolidating the land as soon as sowing, leaving an uneven surface, as if harrowed; and in spring it fastens the root to the soil.
H. NICHOLSON, Rand Grange, Bedale.	A most excellent implement. I never saw anything to equal its effects.	It is invaluable for rolling corn previous to sowing with clove and small seeds.
R. BRIGGS, Ripley, Ripon.	I cannot make use of terms too highly laudatory of its value and use under this head.	Very useful in rolling wheat in spring, and more particularly after clover-seed is sown.
J. WHITAKER, Barley, Otley, Leeds.	Of the greatest benefit when the land is dry.	
H. SMITH, Drax Abbey, Selby.	The most valuable implement I have seen for strong land.	It is very useful in spring, and when the turnip-land is hard.
J. BROWN, Wraggborough, by Pontefract.	The best implement I have seen.	Very valuable.
C. CHARNOCK, Ferry Bridge, by Huddersfield.	Exceedingly useful: in fact, I have often said it has enabled me to set the seasons at defiance.	I have found it extremely useful on wheat, as soon as sown in the autumn, and again in the spring.
Rev. T. CATOR, Skelbrooke Park, by Doncaster.	For limestone and stiff soil, one of the most useful implements in husbandry.	
R. TAYLOR, Gouthorpe, by Tickhill.	The best I have ever seen.	It cannot be beat; only mild the land is dry.
E. THOMPSON, Armin, by Howden.	Very valuable when the land is dry. In some seasons I could not plant my potatoes, or sow turnips without its application.	
J. MECKLETHWAITE, Ardley House, by Barnsley.	A most valuable implement. It also possesses one great advantage, in not cutting or breaking the twitch.	
JOHN DEARWELL, Thurcroft Hall, by Rotherham.	I purchased my clod-crusher of you in the spring of 1842, and have made several operations with it, the results of which I have now much pleasure in communicating to you. After a heavy crop of turnips on strong limestone land, which was eaten off by sheep during the wet weather, it was ploughed up for barley. The soil tore up in cakes and clods as hard as bricks. I know no implement which would have enabled me to reduce this land to a proper tilth, to sow barley, but your clod crusher. Its cost of 20 guineas was abundantly repaid by the crop.	I have used your patent clod-crusher, for wheat, upon land consisting of limestone, gritstone, and strong land, sown partly in autumn and partly in the spring. I have in each instance left a portion unrolled; and those parts show the evil arising from the grub, wireworm and blight, in different situations, to the amount of 6 to 18 bushels to the acre.
T. C. JOHNSON, Chevit Grange, by Wakefield.	I am perfectly satisfied that it is a good implement, and has been of great benefit in breaking up my hard turnip-land.	
Right Hon. Lord HAWKE, Womersley Park, Pontefract.	I have tried your patent clod-crushing roller, which I purchased of you last spring, and it fully answers my expectation.	
Sir J. V. B. JOHNSTONE, Bt., Hackness, near Scarborough.	My agent informs me that he has found it most useful in the preparation of land for sowing turnips: without it, indeed, it would have been very difficult to obtain a sufficiently fine surface for the reception of the seed. One of the principal tenants also used it, with great success, for the same purpose.	

NOTES—Continued.

Query 3—Light Lands.	Query 4—Wireworm and Grub.	Query 5—Grass Lands, &c.
It makes the land more firm than the presser; and in the spring, after frost, the land is not liable to scarp, as after the common roller.	It is invaluable for giving that solid texture, forcing the vermin down from the roots of the plants, which the common roller is not able to perform.	
Most excellent.		
	Very advantageous in stopping the ravages of the wireworm upon strong land after clover-stubble.	
Of essential benefit.	I think its greatest utility is in stopping the ravages of the wireworm.	
Answered in Query 2.	Very useful. I have this season a particular example of its use.	
Of great use upon light soils, after wheat is sown. In some seasons I might lose half a crop without it.		
I have used the clod-crusher in the spring, upon wheat sown on light soils, with great benefit.		
I may here say that my neighbour Mr. Hall, of Riveton Park, broke up some grass land this spring, and sowed oats, using the clod-crusher. I did likewise, but did not use the clod-crusher. Mr. Hall is reaping 3 to 4 quarters per acre more than me, and I have no doubt that your patent clod-crusher has made all the difference.		I have used the roller after draining grass-land, preparatory to applying bone dust, and again after having sown the dust; and found from the parts omitted that the application has been attended with the greatest advantage.

Query 1—Crushing Clods.	Query 2—Strong Lands.
<p>J. BEAUMONT, Brantingham.</p>	<p>I think it most invaluable.</p>
<p>WILLIAM STICKNEY, Ridgmount, Holderness, 8th mo., 2, 1843.</p>	<p>Excellent for this purpose.</p> <p>Sometimes most excellent. particular:—A neighbour of mine very dry and cloddy. The har covering the seed, but were born only rolled from one place on the surface. Both my neigh little prospect of a crop. I lent rolled it. The points of the roller seed in contact with the little soil from the crushed clods coated, and produced a good crop</p>

LINCOLNSH

<p>C. COATES, Beelsby, by Grimsby.</p>	<p>I have seen no implement equal to your clod-crusher for this purpose.</p>	<p>It is particularly valuable for strong turnip land, when late eaten off in the season for barley.</p>
<p>R. RENNARD, Beelsby, by Grimsby.</p>	<p>Very useful. I would not part with it for three times its value.</p>	<p>It answers uncommonly well for this purpose.</p>
<p>FRANCIS ILES, Barnoldby-le-beck, by Grimsby.</p>	<p>I have, from long experience, found it to be a most valuable implement: and I think no farmer's establishment is complete without it. I have in several instances broken up exceedingly strong fallows on my farm at Barnoldby, which is a clay soil; and have also been enabled to sow barley in the spring with good effect, when otherwise I should have found it impossible to do so. I have also this season been enabled, by the aid of your crusher, to break up and work 50 acres of strong wold land, on my farm at Wold Newton, for turnips, with the best effect—the plants growing and looking remarkably well thereon.</p> <p>Of the general utility of your clod-crusher I can speak most positively; and I feel fully assured that no one, after giving it a fair trial, will ever regret having made the purchase.</p>	<p>Upon wold and light lands I consider it very valuable for rolling wheat as soon as sown, when the season will admit, as by its peculiar action on the land it gives a firmness to the plant which prevents its being worked out by the winter frosts. I have also used it the last two seasons upon my barley in the spring after the plant was up, and well grown, and where the clods were rough and sharp, immediately before sowing the small seeds, the result of which has been most satisfactory. The seeds have taken better than I ever had them before in the same fields; and so far from the blade of the barley being injured, which I had feared, I had full proof that the crop was benefited, which I can only account for by the peculiar action of the crusher giving firmness to the plant, and retaining the moisture without leaving the land in a sad or heavy state.</p>
<p>THOMAS KIRBY, Cuxwold Villa, by Caistor.</p>	<p>Very valuable for crushing clods, and breaking up the strongest fallows in the driest seasons.</p>	<p>In my opinion it is an implement that no farmer should dispense with, being wanted, as the seasons vary, both upon light and strong soils.</p>
<p>WALKER DAVY, Thorsway Grange, by Market Rasen.</p>	<p>I have used your clod-crusher, and found it a most valuable implement. It will reduce my clods to powder, and break up the strongest fallows in the driest seasons.</p>	<p>It may be used at any time after sowing, with the greatest safety and much advantage: and upon lands sown late, which are cloddy in the spring, it has a better effect than any other implement I have ever seen.</p>
<p>WILLIAM WITLAM, Louth.</p>	<p>Your clod-crusher has been of great service to me this season. I consider it a first rate implement. It reduces the land to a fine mould, and leaves it much opener than a stone roller.</p>	<p>The land requires to be dry, when its use at all times is of great benefit. In my opinion it is the best implement ever come out for all sorts of soil.</p>
<p>C. C. ROBSON, Cadesby Hall, near Louth.</p>	<p>I have found it essentially useful, and a great saving in labour, in producing a fine mould.</p>	

Crosskill's Patent Clod-Crusher.

PORTS—Continued.

Query 3—Light Lands.	Query 4—Wireworm and Grub.	Query 5—Grass Lands, &c.
One of the best purposes it can possibly be used for, is in the case of light lands, where the soil is so light that it is necessary to have a large field with oats, rows had but little effect in up by the clods, which were another, the land being very dry bourn and I thought there was him my clod crusher, and he pressed a large portion of the moisture left in the land. The vered the seed, and it soon vegetated much beyond our expectation.		
PORTS.		
In both cases I think it exceedingly useful. In the last spring I had a piece of wheat upon rather light, thin, soiled chalk land, which was perceptibly losing plant every day from the effects of the winter's frosts. As soon as the weather permitted, which was in the last week in March, I had it rolled with your crusher, after which it began regularly to improve, and now is looking very well. The large iron roller would in such an instance as this do no good whatever, but rather harm, as by merely going over the surface it pulverizes the light top soil, without giving the necessary adhesiveness to the plant; and should dry windy weather ensue, the plant is bared, and left in a worse condition than before, whereas the action of your clod crusher is similar to that of treading with sheep, going down to the root of the plant, and saving it firm and secure.	Had no experience.	Had no experience.
I have found great benefit from using it also upon light lands soon as sown, and in the spring after frost.		
I consider it infinitely preferable to any roller, as it leaves the land without a smooth surface.	Upon a comparison of the state of my farm before the use of the patent clod crusher, and subsequently, I am bound to state that the wireworm and grub have been much less prevalent.	
Of great advantage.	Many crops are saved from the wireworm by this implement.	Quite satisfactory. It does immense execution in breaking down.
	It produces a fine turnip mould, which retains moisture and induces a quick and regular growth of the plant and prevents the ravages of the fly.	

	Query 1—Crushing Clods.	Query 2—Strong Lands.
Rev. F. PREL, Willingham Rectory, by Gainsborough.	It reduces the rough fallows on very strong lands most effectually. I could not grow winter tares as a preparation for wheat, or set my bean stubbles in order in dry seasons, without it.	I find it often very useful getting in my spring corn, when the ground is dry and rough. I should consider it a great benefit indeed to the strong land farmer.
WILLIAM HUTTON, Gate Burton, by Gainsborough.		
C. BAYLES, Riseholm Grange, by Lincoln.	Superior to any other implement I have ever seen.	I have used it with the best effect upon corn land in the spring.
E. CLARKE, Canwick, by Lincoln.	By far the most valuable implement I have yet seen for this purpose.	
S. HODGKINSON, Greetwell, by Lincoln.	I have derived great benefit from it. Indeed I should not have got my fallows in order without your clod crusher. On my strong clay fallows it has very much forwarded my work.	I roll all my wheat with it after the frosts, and soon see a great change.
J. G. STEPHENSON, Skellingthorpe, by Lincoln.	I consider the clod crusher indispensable. This year my fallows never could have been got in order for turnips without it, or my neighbour's either, to whom I lent it, and who will have one before another season.	My wheat has generally better root in the winter and spring. Last year I rolled it as soon as drilled, and also early in the spring, and never had it so good.
FREDERICK SHAW, Skellingthorpe, by Lincoln.	The most useful of all agricultural implements, when the land is rough and out of condition.	
J. B. SLATER, North Carlton, by Lincoln.	I consider your implement exceedingly beneficial for this purpose. I broke up a piece of grass land full of ant hills; a very rough field. After ploughing up the hills we used a heavy ox harrow, and when dry employed your clod crusher over the ground twice. The land was sufficiently pulverized to grow a good crop of turnips without any further ploughing.	
R. COLLETT, Swinthorpe, by Lincoln.	Invaluable.	Very useful.
R. S. GRABURN, Branswell Cottage, by Sleaford.	I have had two of your clod crushers in extensive use, and find it admirably calculated for this purpose. I should feel greatly at a loss without its aid; also a great saving of horse labour is effected upon strong soils.	When the weather will suit the operation, immediately after sowing the wheat, it is a great firmness to the soil, it is beneficial to the growing crop, discouraging to grubs, and a garden like finish to the tivation.
H. HANDLEY, Culverthorpe Hall, by Grantham.	I have used your clod crusher upon my strong clay farm, and found it very effective in preparing fallows, especially on bare ground ploughed in summer after the removal of the crop.	
W. B. WINGATE, Hareby, by Bolingbroke.	Your clod crusher is a most useful and valuable implement, and an article no one should be without, occupying strong and tenacious soils.	

PORTS—Continued.

Query 3—Light Lands.	Query 4—Wireworm and Grub.	Query 5—Grass Lands.
<p>Of great advantage for this purpose.</p>	<p>Very useful for this purpose.</p>	
<p>I borrowed one of your clod-crushers of my neighbour, the Rev. F. Peel, of Willingham, to roll my new-sown wheat with, on my light soil, and am so far satisfied with the appearance of the wheat now, that I desire you to send me one by the 25th September.</p>		
<p>For these purposes it is infinitely superior to the common land roller. It makes our land more solid, and at the same time prevents the dry March winds from blowing the corn bare.</p>	<p>Here again I prefer it, for the same reasons as in the answers to the preceding questions.</p>	
<p>I have derived most benefit from it in rolling some light fresh taken-up land ravaged with the wireworm. The first year I thought nothing could save the wheat; but very soon after using your crusher it began to fasten at the root, and gather. I have rolled the same description of land twice over with it this year, where the wireworm had begun, and my wheat looks very luxuriant.</p>		
<p>I have always rolled my light lands with it in the spring, and believe it equally valuable upon light land farms as upon strong. Wherever wheat is grown, and wherever turnips are intended to be grown, it is of great benefit.</p>	<p>I consider it very useful for this purpose, if used early enough. My wheat appears to have improved after using the clod-crusher.</p>	
	<p>Especially useful for all lands subject to the wireworm and grub.</p>	
<p>Upon our heath and clift lands after ploughing, and previous to drilling in the autumn, and again in the spring, it is attended with every beneficial effect, it gives a greater degree of solidity, and more firmly secures the root.</p>	<p>I find it, for stopping the ravages of the wireworm and grub, a very useful and effectual implement.</p>	
<p>In both cases I have used the implement extensively, with considerable advantage. I have derived great advantage from consolidating the soil after it has been lightened by the action of the frost.</p>	<p>P.S. In justice to yourself as the inventor, I am enabled to state that at no meeting of the Royal Agricultural Society has there been exhibited any essential improvement upon your original invention.</p>	

	Query 1—Crushing Clods.	Query 2—Strong Lands.
ROBERT DAWSON, Strubby, by Alford.	Your clod-crusher has been of great advantage to me in several instances, when the land had become cloddy and sufficient mould could not be raised to cover the seed. In one instance, especially, the crop of turnips would have almost entirely failed, if I had not used the clod-crusher. I have also used it with good effect after the corn was sown; and I can with pleasure bear testimony to the excellency of "Crosskill's clod crusher."	
C. G. HOLLAND, Carrington House, by Boston.	Upon my two strong farms I have used two of your clod-crushers, and am thoroughly convinced of their superiority over every other implement as yet invented for strong clays. Your clod-crusher after passing twice over has prepared fallows when no common roller would have made any impression. It does not sodden the land like a common roller, consequently it leaves it in a much better state for the next ploughing.	
JOHN MOSSOP, Moulton Marsh, by Spalding.	The clod-crusher will do more execution in going over rough dry fallows than any other implement I have ever seen work; it will have the desired effect when all others fail. I was allowed to try your clod-crusher previous to becoming a purchaser; I no sooner got to work it than I found it did more execution once over than my heavy iron roll would have done in ten times, in fact I could not get the land fit to receive seed without it.	Upon lands sown late it is invaluable.
The Hon. and Rev. W. PEGUS, Uffington House, by Stamford.	For the purposes 1, 2, 3, and 4, I have used "Crosskill's patent clod-crusher," and after three years' experience I can with confidence say, for all these purposes, it is the very best and most economical implement that a farmer can have upon his farm. Several of my neighbours are of the same opinion.	
G. H. BETTS, Ketton, by Stamford.	I had a convincing proof of the utility of the clod-crusher upon my strong land this spring. I decidedly could not have sown my barley without the use of it. I assure you I should be very sorry to be without it.	It breaks the crust on the top and makes solid the earth at the root; while it leaves the top surface in a nice state for the plant to tiller in; while the common roller merely breaks the top surface, and if wind succeeds, does injury rather than otherwise, by blowing it away.
STAFFORD O'BRIEN, Blatherwicke Park, by Wansford.	A most valuable implement; I have chiefly used it for crushing clods: it does its work far better than any implement I ever used or saw. I could not manage my farm without it.	It answers well to roll corn just sown.
CHARLES TONGE, Branston, near Lincoln.	The best possible implement for the purpose; and the only one I have found to answer the purpose.	Very good for rolling wheat as enough for it to work. I consider one that every farmer would like may get well paid for his inven-
WILLIAM DODS, Gosberton, near Boston.	I have had your clod-crusher so short a time, that I can scarcely give you my testimony of its actual experience, not having used it at seed time; certainly as far as I have used it I consider it a most valuable implement; and shall not fail to recommend it to my neighbours.	
H. WATSON, Walkeringham, near Gainsborough.	I have had so little time to use the clod-crusher, that my experience, I think, will avail you but little. I have found it most invaluable for crushing clods.	
J. H. SKEPWORTH, Normanby, by Market Rasen.	For crushing clods and breaking up fallows in a dry season, I consider it the most effective implement ever invented; in fact, a piece of land belonging to my neighbour Mr. E. Young, could never have been got ready for sowing turnips this year, if it had not been for your valuable implement; it was baked so hard and dry, that a heavy iron roller had no effect upon it; he passed the clod-crusher over it once, and most effectually pulverized it for drilling, and a very fine crop of turnips is the result.	Last year was the first time of my using your clod crusher on wheat directly after sowing. I used it on a 30 acre field, part of which I left undone, purposely, about 5 acres, which I had rolled with a common roller, and harrowed afterwards with a pair of light harrows. From the first appearance of the wheat, the part rolled with the clod-crusher was decidedly the best (and many people who rode past the field remarked it, and inquired of me the reason) up to the time of going into ear, when the difference was then not so good to see, but I fancy since cut there appears to be a greater bulk of straw where it was rolled with the clod-crusher.

	Query 1—Crushing Clods.	Query 2—Strong Lands.
<p>THOMAS DIXON, Osgodby, by Market Rasen.</p>	<p>I consider the clod-crusher extremely useful on clay lands, and when a farmer is anxious to obtain a turnip crop on strong land, he ought not to be without one; as, in some seasons, it is impossible to get strong land properly worked or fine enough for turnip-seed; and be the season ever so dry, the clod-crusher, by passing two or three times over the clods, will reduce them, I may say, to powder. I left my farm at Riby last May-day, and am at present out of the farming business. At my sale last May-day the crusher was sold within 30s. of its cost, after I had used it four or five years, which fully proves the estimation it was held in.</p>	
		NOTTINGHAMSHIRE
The Duke of PORTLAND, Welbeck Abbey, Worksop,	Perfect.	
J. D. CLARK, Barnby Moor, East Redford.	I am happy to say I have one of your patent clod-crushers, and have found it the most valuable implement I ever saw in breaking up the clods on strong clay lands.	
Mr. JOHN NOTON, Bailiff to R. ARKWRIGHT, Esq., of Sutton Hall, Derbyshire.	We have found it answer upon strong fallows better than any other implement.	
S. S. SHORT, Kingsley, by Tuxford.	I have tried the clod crusher upon strong clay soil. For instance, I had a field of turnips which were eaten off when it was wet; it was ploughed up, and baked very dry; had it not been for your crusher, I should not have got it sown with barley.	I have used it for rolling wheat in the spring, and found it answer very well. I consider it a very useful implement.
J. E. DENISON, M.P., Ossington, by Tuxford.	Your clod crusher is a very valuable implement in preparing fallow land in dry seasons. It reduces the size of the clods to such proportions that the first shower of rain makes them fall into mould; when, without your clod-crusher, it would have been impossible to get the land fit for any sort of spring or summer cultivation.	It is very valuable for autumn-sown wheat in the spring, even on strong land. I rolled one part of a field with your clod-crusher, and left part unrolled. The superiority of the part rolled was very evident.
JOHN PARKINSON, Ley Fields, Newark.	It is superior to any other implement I have tried for crushing clods on strong lands.	It is of very great use in preparing the land before and after sowing corn, and especially with reference to the growth of clover and grass seeds sown therewith.
J. W. NEWSTEAD, Dunham on Trent, Newark.	I have found it of great benefit in breaking up my land for spring corn and for turnip-land. I should not have got my strong land sufficiently fine for barley this spring without it: I really do not know what I should do without it.	A very excellent implement for rolling wheats in the spring of the year, especially on clover-leys and seeds, which lie rather hollow, and very frequently lost plant, if not pressed down after frost.
ROBERT FAULKES, Beckingham, Newark.	I have had little occasion to use it for this purpose.	I have used it with excellent effect upon land sown with wheat after turnips in the spring; it is now my invariable practice.
SAMUEL ABBOTT, Lowdham, near Nottingham.	I cannot speak more highly of your clod-crusher than it deserves. It is the most powerful and efficient pulverizer of land that I ever met with.	It is also invaluable for rolling corn in the spring, when there is a danger of its losing root.
W. W. MOODY, South Leverton, near Retford.	I have only had your crusher this season, and find it the best implement ever introduced in our part of the country for these purposes.	

SPORTS—Continued.

Query 3—Light Lands.	Query 4—Wireworm and Grub.	Query 5—Grass Lands, &c.
Good for rolling corn in the spring upon lands sown late in the year.	Most valuable.	M.R. COVILL, M.P. Staffordshire, Derby.
On strong land sown with wheat in the autumn, and on over-sown before sowing I have used the clod-crusher with very great advantage also after corn.	I have had long experience with your patent clod-crusher, and have now a second year used it with good results. I have used it on a second year and have found it most valuable.	John Wright Staffordshire, Derby.
I have experienced very good effects on our light land in Nottinghamshire. In rolling our wheat it answers far better than the common roller.	I have used your clod-crusher for several years, and have found it of the greatest use. It has enabled me to get the best of the ground, and I have found it most valuable.	John Wright Staffordshire, Derby.
I have this year rolled my wheat with it in the spring, and with decided advantage.	Also upon barley affected with the wireworm, where it had a good effect.	John Wright Staffordshire, Derby.
I have no experience of its use in rolling light land; but I should imagine it would be greater even than on strong land.	It is very efficient in stopping the ravages of the wireworm. One of my tenants borrowed my clod-crusher to roll a field of barley. It was almost destroyed by the wireworm. It was so much injured that the prospect of a crop was estimated not to be worth more than £1 per acre. The land was a good but a strong loam. After once rolling with the clod-crusher, the ravages of the wireworm stopped entirely. The crop of barley yielded 7 quarters per acre.	John Wright Staffordshire, Derby.
It is of great use upon light arable land, as it gives requisite compression without leaving a smooth surface. I have found it valuable for rolling turnips when the surface is crusted.	P.S. I do not know a farm of any description whatever whereon it is not applicable with benefit to the occupier. No farm of considerable extent ought to be without one.	John Wright Staffordshire, Derby.
More valuable than any other implement.	An invaluable implement; it stops the ravages of the wireworm most effectually.	John Wright Staffordshire, Derby.
I am much pleased with its operation: it presses the soil to the roots of the plant, and leaves the land firm. It acts in the same manner as a gardener presses the soil to the roots of a plant with his setting-stick. The common roller acts as if, after putting his plant into the hole, he merely contented himself with putting his foot upon it.	This question I can answer most decidedly. I am much troubled with the wireworm, and generally I have found once rolling with your clod-crusher sufficient, when the land is in a proper state. I have never found the wireworm able to work after twice rolling.	John Wright Staffordshire, Derby.
	I am much pleased with its operation: it presses the soil to the roots of the plant, and leaves the land firm. It acts in the same manner as a gardener presses the soil to the roots of a plant with his setting-stick. The common roller acts as if, after putting his plant into the hole, he merely contented himself with putting his foot upon it.	John Wright Staffordshire, Derby.

	Query 1—Crushing Clods.	Query 2—Strong Lands.
C.R. COLVILLE, M.P. Duffield Hall, Derby.	Most valuable.	Good for rolling corn in the spring upon lands sown late in the year.
JOHN WRIGHT, Romely, Chesterfield, Derbyshire.	I have had long experience with your patent clod-crusher, and have now reduced the strong land I occupy to good turnip culture; no season hitherto has prevented my having a good crop of turnips upon land where turnips were never attempted to be grown before. It is the most valuable implement we possess.	On strong land sown with wheat in the autumn, and on clover-ley before sowing, I have used the clod-crusher with very great advantage, also, after sowing. I think it invaluable for rolling wheat in the spring of the year; it is also useful for land that has been fed on with sheep in a wet season before sowing with barley, and for rolling wheat in the spring; it ensures the growth of clover-seed.
S. JOHNSON, Somersall, Chesterfield.	I have used your clod-crusher for several years, and have found it of the greatest possible benefit. In regard to the questions contained in your Circular, Nos. 1, 2, 3, and 5, in all which I have tried your clod-crusher, I found it most invaluable.	
HENRY WOOD, Cropston, near Mountsorrel, Leicestershire.	I have great pleasure in conveying to you my experience of the clod-crusher, which I was induced to order of you last year, after the loan of my neighbour's, Henry Paget, Esq., of Bristol. I deem the implement invaluable on all lands subject to stick in ploughing, and which are incapable of pulverizing in parching dry seasons. I first used it, and succeeded in reducing a seven acre close to a barley tilth in one day.	I have this year rolled all my wheats with it in the spring, and with decided advantage. N.B. In the present very depressed state of agriculture, landlords could not confer a greater benefit on their tenantry than by keeping implements, like the one in question, for the common use of the occupiers of their land.
R. FULSHAW, Knighton, Leicestershire.	I have great pleasure in answering your questions respecting your patent clod-crusher, having tried it in all several times, and find it answer remarkably well.	
J. B. BUSHEL, Coleshill, Warwickshire.	No implement ever came under my eye equal to it for this purpose.	
J. B. MASSEY, Buntingford, Herts.	It answers remarkably well.	It exceeds my most sanguine expectations.
WILLIAM THOMAS, Soilwell, Gloucestershire.	Very valuable.	More suitable than any other implement.

KENT, MIDDLESEX, SURREY.

Col. T. AUSTEN, Kippington, Seven Oaks, Kent.	I used your clod-crusher last year in preparing my land for mangold-wurzel and Swede turnips, and but for your clod-crusher I should and must have lost my season for sowing: as it was, I never had a better crop, which I attribute in a great measure to the efficient manner in which the ground was pulverized by your roller for the reception of the seed. I may safely and conscientiously assert that among all the improvements in our agricultural machinery, I know none that surpasses your clod-crusher roller.	It is equally successful in rolling corn after it has been sown, more especially in some of our dry springs, where I could, after the corn was grown up, see how far to a nicety the roller had gone.
THOS. FLIGHT, Laycock's Dairy, Islington, Middlesex.	I am happy to say that I have used your clod-crusher in the Isle of Sheppey with great satisfaction, and have recommended it to my brother-farmers on the Island, who I have no doubt, will patronize it also, as they are equally pleased with it.	

ESSEX, AND HAMPSHIRE REPORTS.

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	Query 1—Crushing Clods.	Query 2—Strong Lands.
J. M. BROADWOOD. Lyne, near Dorking, Surrey.	My land is a stiff clay loam, which when ploughed wet breaks up in clods that when dry becomes so hard as to defy the attempts of the harrow and common iron roller to reduce them. Your clod-crusher accomplishes this fully. I have this morning seen it reduce to a friable state an oat-ash field broken up since harvest, which, but for the operation of your clod-crusher, would not have furnished grit enough to have covered the seed. For all fallows I think your clod crusher is invaluable.	
G. MAITLAND, East Grinstead, Hartfield, Sussex.	I am quite satisfied with your clod-crusher, and it is much approved of by all my friends here. It pulverizes much more effectually than any other implement, rendering the surface in a proper state for drilling in the seed.	The use of the clod-crusher is always beneficial when the land is dry. In my opinion it is a very valuable implement upon our stiff soils.
WILLIAM WALTON, Merton Farm, Hursley, Winchester, Hants.	In the spring of 1842, I had 24 acres of swedes all eaten off by sheep in wet weather upon strong land. It ploughed up in lumps as big as horses' heads; without the clod-crusher I could not have got the land fine enough for barley. I grew 7 quarters of fine malting barley per acre. Several of my neighbours, who were in the same situation, had not a crusher, and grew 2 to 3 quarters of their barley per acre.	Strongland, which is too rough or cloddy to be sown with wheat, should be rolled with your clod-crusher previous to the last ploughing. It is invaluable in the spring, and saves a great deal of labour in rolling and harrowing, to get the land sufficiently fine for barley-seeds and turnips.
G. JENNINGS, Dover, Kent.	It answers well for strong and light soils. Very valuable for crushing clods.	
JOHN POWELL, Boverton Castle, Cowbridge, Glamorgan- shire, Wales.	It reduces clods perfectly in the driest seasons, although it sometimes has required a second application, more particularly for barley after turnips. I have found it a most valuable implement upon strong lands.	I was so much satisfied with its results, both last year and the year before, when I tried it upon some of my wheats in the spring, that I have this year applied it to the whole of my wheats with the same beneficial results.
JOHN OMEROD, Bryn-y-hynon, Ruthin, Wales.	I can merely state that I have tried your clod-crusher for breaking up rough, cloddy land, and also for preparing land for turnips, and have found it to answer very well, provided the land be in a dry state.	
G. JACSON, Barton Lodge, near Preston, Lancashire.	I have only the experience of this season, during which I have found it a valuable implement.	Exceedingly useful.
Rev. C. GLYNN, Hawarden Rectory, Chester.	I am very glad to have this opportunity of bearing witness of the efficacy of your patent clod-crusher. I have used it entirely upon the strongest fallow, and am confident that without it, in a dry season, one particular field of blue clay in my occupation could not have been worked at all. I have lent it to many of my neighbours, who all express their unqualified approbation of its usefulness.	
W. JOHNSON, Chillingham, Newtown, Wooler, Northumberland.	I have found it most valuable in crushing clods, on soils which are tenacious, in preparing them for turnips, in a dry season. Also for similar soils, after turnips, in a dry season. In the month of April, in preparing for barley, I have found it a most useful and efficient implement. It was my steward's opinion, in consequence of very dry spring seasons, some of my clay soils, intended for green crops, would have remained fallow had I been without the implement.	I ploughed, harrowed, and clod-crushed a field of this description of 24 acres, after turnips, and had a crop of barley of 60 bushels per acre, by which I reckoned the produce was nearly doubled.
H. CLIFFE, Bellvue, Enniscorthy, Ireland.		I have used it in rolling wheat with good effect, and in preparing light land for turnip-crops.

Query 3—Light Lands.	Query 4—Wireworm, Grub, &c.	Query 5—Grass Lands.
<p>This question I consider to be most important. Light thin land must be compressed and got as close as possible together; to accomplish this, we tread the land with sheep after sowing wheat, which I have no doubt does the sheep a deal of harm in many respects. I consider the clod-crusher much better and safer for wheat. If rain comes after sheep treading, it leaves scales upon the land; the clod-crusher makes the land firm and close under, and a little rough at the top.</p>	<p>Where I have used the clod-crusher, my corn has not been ravaged by the wireworm or grub I have no doubt it would be useful on mossy grass-lands. P.S. I have often said at the markets, and now repeat it, that if there was not another clod-crusher to be got, I would not take a thousand pounds for mine. I have 500 acres of light and 300 acres of strong land under the plough. It is invaluable.</p>	
<p>Wheat on strong and light lands, and especially on stony and gravelly lands, are greatly improved by the use of the clod-crusher in the spring, particularly after turnips and clover-ley, it is much superior to the peg-roller after sowing.</p>	<p>I have no hesitation in saying I have found it a specific to the wireworm. P.S. In my opinion no farmer should be without one.</p>	

Kirskill, near Otley, Yorkshire, June 6th, 1844.

Mr. W. Crosskill,

Sir,—If ever a thing answered the purpose for which it was made, your patent clod-crusher does, and I only regret I had not heard of your roller years ago.

I have the honor to be,

Yours, &c.

W. RHODES.

Halewood, near Liverpool, May 6th, 1844

Mr. Crosskill,

I have tried your clod-crusher extensively on some heavy land during the late dry weather, as well as on some wheat, sown in November and December last. I have also worked it in a bean-field, sown in the drill, by drawing from the axle such of the wheels as would have pressed upon the rows of beans, and substituting an iron collar in their place.

In every instance the effect has exceeded my most sanguine expectations; instead of being, as I was last year, hampered by clods that the heaviest roller I could procure drawn by four horses entirely failed in subduing. I have my land this year in beautiful order for my turnip sowing; I have never had to go more than twice over on the heaviest, and only once over by far the greater portion of it. This is entirely attributable to your clod-crusher, and I with pleasure add my testimony, not only to its efficacy, but to the obligation I consider all tillers of heavy land are under to you for so valuable an invention.

I am, Sir,

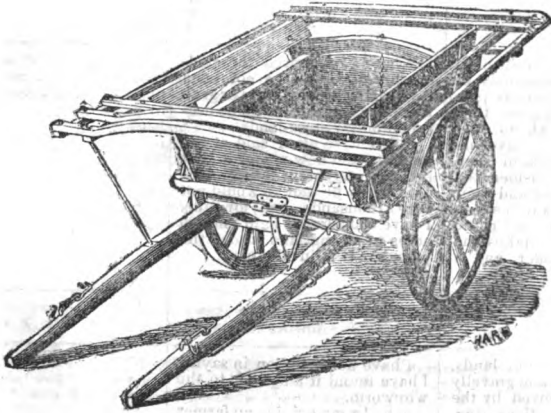
Your obedient Servant,

ROBERT NEILSON.

CROSSKILL'S IMPROVED ONE HORSE CARTS,

Mounted on Patent Wheels and Axles Manufactured by Machinery,

FOR THE REDUCTION OF HORSE POWER ON THE FARM.



CROSSKILL'S PRIZE ONE HORSE CART.

A strong, useful, and cheap, One Horse "Model" Cart, fitted with Harvest Shelvings complete, and adapted for general Farm Work.

Awarded the Head Prize of Five Sovereigns by the Royal Society of England, at Newcastle; also Two Sovereigns at the Royal Shrewsbury Meeting, 1844. The Silver Medal at the Limerick Meeting of the Royal Irish Society, 1846. The North Lincolnshire Agricultural Society's Prizes in 1845 and 1846; and Prizes or Medals at other Provincial Meetings.

The Body of the Cart is constructed of Oak frame, and strong plank sides, with loose side boards, made larger than Scotch Carts, and the Ironwork more complete in several parts; combining great strength, with lightness and ease of draught. The cart tipper placed in front of the Cart, is a safe and simple plan for relieving the horse of the pressure from a heavy load, when descending hills.

In Norfolk, where manure is delivered in small heaps upon the land, this plan is much approved of. The Cart will carry a solid load of 30 cwt. or 5 qrs. of wheat, with one horse. These Carts are now in use in Yorkshire, Lincolnshire, Norfolk, Notts, and nearly every other County in England.

For the advantages of One Horse Carts, see P. Pusey, Esquire's Report, in the Journal of the Royal Agricultural Society of England. And in a Trial, reported in vol. IV. part 2, 1843, page 305, it is proved that the amount of saving in Horses and Horse keep, is of national importance.